AMENDMENTS TO THE CLAIMS

1-40. (Cancelled).

41. (Previously presented) A method for producing a soluble biologically-active protein, comprising:

transforming an *E. coli* host cell with a plasmid having at least one copy of an expressible eukaryotic gene encoding said protein;

lytically infecting the transformed bacterial host cell with a bacteriophage λ having cI_{857}, Q_{am117}, and R_{am54} mutations; and

cultivating the *E. coli* host cell under a culture temperature of less than about 32° C that delays lysis of the cells, permitting the production of soluble, biologically-active protein.

42. (Currently amended) The method of claim 41, wherein the protein is human alpha-2b interferon.

43. (Previously presented) The method of claim 41, wherein the host cell further comprises recA$^-$ 13.

44. (Previously presented) The method of claim 41, wherein the *E. coli* host cell produces a suppressor for the repair of amber-mutations.

45. (Previously presented) The method of claim 41, wherein the *E. coli* host cell lacks a suppressor for the repair of amber-mutations.

46. (Previously presented) The method of claim 41, wherein the infecting bacteriophage λ is provided at a multiplicity of infection in a range of about 1 to about 100.

47. (Previously presented) The method of claim 41, wherein the infecting bacteriophage λ is provided at a multiplicity of infection in a range of about 10 to about 25.

48. (Cancelled)

49. (Previously presented) A method for producing a soluble biologically-active protein, comprising:

transforming an *E. coli* host cell with a plasmid having at least one copy of an expressible eukaryotic gene encoding said protein;

lytically infecting the transformed bacterial host cell with a bacteriophage λ having cI_{857}, Q_{am117}, and R_{am54} mutations, wherein the bacteriophage also contains at least one copy of said expressible gene encoding said protein; and

cultivating the *E. coli* host cell under a culture temperature of less than about 32° C that delays lysis of the cells, permitting the production of the soluble, biologically-active protein.

50. (Previously presented) The method of claim 49, wherein the strain of *E. coli* produces a suppressor for repairing amber-mutations.

51. (Previously presented) The method of claim 49, wherein the strain of *E. coli* lacks a suppressor for repairing amber-mutations.

52. (Previously presented) The method of claim 49, wherein said protein is human alpha-2b interferon.

53. (Previously presented) A method for producing a biologically active protein, comprising:

transforming an *E. coli* host cell with a plasmid having at least one copy of an expressible eukaryotic gene encoding said protein;

lytically infecting the transformed bacterial host cell with a bacteriophage λ having a temperature-sensitive mutation and at least one mutated gene selected from the group consisting of N, Q, and R; and

cultivating the *E. coli* host cell under a culture temperature of less than about 32° C that delays lysis of the cells, permitting the production of the biologically active protein.

54. (Cancelled)

55. (Previously presented) The method of claim 53, wherein the temperature–sensitive mutation is cI_{857}.

56. (Previously presented) The method of Claim 53, wherein said strain of *E. coli* lacks a suppressor for repairing amber-mutations.

57. (Previously presented) The method of Claim 53, wherein said strain of *E. coli* is recA deficient.

58. (Previously presented) A method for producing a biologically active protein, comprising:

transforming an *E. coli* host cell with a plasmid having at least one copy of an expressible eukaryotic gene encoding said protein;

lytically infecting the transformed bacterial host cell with a bacteriophage λ, having a temperature-sensitive mutation and at least one mutated gene selected from the group consisting of N, Q, and R, wherein the bacteriophage also contains at least one copy of said expressible gene encoding said protein; and

cultivating the *E. coli* host cell under a culture temperature of less than about 32° C that delays lysis of the cells, until production of said protein is reached.

59. (Cancelled)

60. (Previously presented) The method of claim 58, wherein the temperature–sensitive mutation is cI_{857}.

61. (Previously presented) The method of Claim 58, wherein said *E. coli* host cell lacks a suppressor for repairing amber-mutations.

62. (Previously presented) The method of Claim 58, wherein said *E. coli* host cell is recA deficient.

63. (Previously presented) A method of producing a biologically-active eukaryotic protein comprising:

growing a first strain of *E. coli* cells, which harbor a strain of bacteriophage λ, wherein the bacteriophage λ has a temperature-sensitive mutation,

manipulating the temperature to provide for lysis of the first strain of *E. coli* cells and release of the bacteriophage λ,

adding the released bacteriophage λ to a second strain of *E. coli* cells to lytically infect the second strain of *E. coli* cells with the released bacteriophage λ, wherein said second strain of *E. coli* cells has been transformed with a plasmid having at least one copy of an expressible gene encoding said biologically-active eukaryotic protein; and

culturing the second strain of *E. coli* host cells such that said biologically-active eukaryotic protein is produced and released to the media as a soluble, biologically-active eukaryotic protein.

64. (Previously presented) The method of claim 63, wherein the temperature–sensitive mutation is cI_{857}.